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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,955	03/25/2004	Henry W. Sullivan	Tie Tek-001:D	6356
21897	7590	11/04/2005	EXAMINER	
THE MATTHEWS FIRM 2000 BERING DRIVE SUITE 700 HOUSTON, TX 77057			DEL SOLE, JOSEPH S	
			ART UNIT	PAPER NUMBER
			1722	

DATE MAILED: 11/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/808,955	Applicant(s) SULLIVAN ET AL.	
	Examiner Joseph S. Del Sole	Art Unit 1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,6,8-12,15,17-24 and 26-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3,6,8-12 and 15 is/are allowed.
- 6) ☒ Claim(s) 17-24 and 26-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 30 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The only limitation of claim 31 is a "cooling bath", however this limitation has been added in more specific form to parent claim 1 in the amendment of 10/6/05: "water bath".

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 17, 26, 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al (5,370,518) in view of Smith (4,318,877) and Hammer et al (4,626,189).

Sasaki et al each an apparatus for making a member in a mold having a chamber for mixing materials (Fig 5, #71, the chamber invariably mixes material as it is transferred); an extruder for filling the mold with the materials (Fig 5); a member for adjustably controlling a density of the materials as the mold is filled (Fig 5); a valve means capable of allowing flow when the mold is empty and blocking flow when the mold is full (Fig 5, #81); an indicator means for sensing material in the mold thereby actuating the valve means (col 4, line 64 - col 5, line 18 and (col 10, lines 47 - 66); means to push a rod (Fig 1, #110) inwardly and push the member out to the mold after the member is formed.

Sasaki et al fail to teach a mixer upstream of the extruder and fails to teach a cooling bath for cooling the mold and means to put the mold into the cooling bath and means to take the mold out of the cooling bath.

Smith teaches the use of a Banbury mixer prior to an extruder for the purpose of completely mixing a material before further extrusion processing. (col 3, lines 59-62).

Hammer et al teach a cooling bath (Fig 1, #50) into and out of which the mold can be put/taken for the purpose of cooling the molds for reuse (col 6, lines 20-23).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of Sasaki et al with mixer upstream of the extruder as taught by Smith because such a mixer ensures thorough mixing before extrusion and it would have been obvious to use a cooling bath as taught by Hammer et al because a cooling bath enables quicker cooling of a mold to decrease turnaround sound.

5. Claims 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al (5,370,518) in view of Smith (4,318,877) and Hammer et al (4,626,189) and further in view of Von Holdt, Sr (5,380,184).

Sasaki et al, Smith and Hammer et al teach the apparatus as discussed above.

Sasaki et al fail to teach the members being molded in a plurality of molds; the valve means to divert the flow to a molt that is not filled; the valve means is a diverter valve; a first diverter station and a second diverter station.

Von Holdt, Sr teaches a diverter valve (Fig 2, #32) for the purpose of alternately feeding a first (Fig 3, #18) and second (Fig 3, #20) diverter station (col 1, line 55 - col 2, line 5).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of Sasaki et al with a diverter valve as taught by Von Holdt, Sr because it would enable multiple products to be made with multiple molds each alternatively supplied by a single source.

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6. Claims 22, 23 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al (5,370,518) in view of Smith (4,318,877) and Hammer et al (4,626,189) and further in view of Fritsch (3,477,101).

Sasaki et al, Smith and Hammer et al teach the apparatus as discussed above.

Sasaki et al fail to teach the mold further having at least one end confining the materials and a sliding rod extending outward from the end of the mold, the sliding rod moving outwardly as the mold is filled; wherein the is detected by a sensor when the mold is full or substantially full.

Fritsch teaches the use of a mold having a sliding rod (Fig 7, #23) with a piston (Fig 7, #27), a gear (Fig 7, #s 19 and 25 act as a gear) and a brake (Fig 7, #s 31-33) extending outward from an end of the mold, the rod moving outwardly as the mold is filled for the purpose of using a single mold to form products having different final lengths (col 3, lines 20-23).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of Sasaki et al with a slug shaped mold having therein a piston and rod as taught by Sasaki et al because it enables products of varying length to be formed with the single mold and the production of the product to be controlled as taught by Sasaki et al.

7. Claims 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al (5,370,518) in view of Smith (4,318,877), Hammer et al (4,626,189) and Fritsch (3,477,101) and further in view of Von Holdt, Sr (5,380,184).

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Sasaki et al, Smith, Hammer et al and Fritsch teach the apparatus as discussed above.

Sasaki et al fail to teach the members being molded in a plurality of molds; the valve means to divert the flow to a mold that is not filled; the valve means is a diverter valve; a first diverter station and a second diverter station.

Von Holdt, Sr teaches a diverter valve (Fig 2, #32) for the purpose of alternately feeding a first (Fig 3, #18) and second (Fig 3, #20) diverter station (col 1, line 55 - col 2, line 5).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of Sasaki et al with a diverter valve as taught by Von Holdt, Sr because it would enable multiple products to be made with multiple molds each alternatively supplied by a single source.

8. Claims 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al (5,370,518) in view of Smith (4,318,877) and Hammer et al (4,626,189) and further in view of Plastino (5,732,858).

Sasaki et al, Smith and Hammer et al teach the apparatus as discussed above.

Sasaki et al fail to teach a cooling rack.

Plastino et al teach a cooling rack (Fig 10, #80) for the purpose of cooling a molded product (col 6, lines 20-25).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of Sasaki et al with a cooling

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rack as taught by Plastino et al because it further enables cooling of a product post-molding.

9. Claims 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al (5,370,518) in view of Smith (4,318,877) and Hammer et al (4,626,189) and further in view of Rettenbacher (5,916,503).

Sasaki et al, Smith and Hammer et al teach the apparatus as discussed above.

Sasaki et al fail to teach a texturing member.

Rettenbacher teaches a texturing member (Fig 2, #s 320 and 330) for the purpose of texturing a member after it is molded (col 7, lines 50-60).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of Sasaki et al with texturing member subsequent to the molding apparatus because such a member would enable texture to be applied to a surface of the molded product.

Response to Arguments

10. Applicant's arguments filed 10/6/05 have been fully considered but they are not persuasive.

The Applicant argues that the amendment of claim 17, namely adding "mixer is upstream of the extruder" overcomes the prior art.

The Examiner notes that the amendment did require a new rejection to be made as set forth above.

Allowable Subject Matter

11. Claims 1, 3, 6, 8-12 and 15 are allowed.

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12. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to teach the combination of a mold having a side wall interior portion; an injection opening; a piston capable of sliding at a variable speed along the interior portion; and a combination of at least one gear and at least one brake, wherein the combination engages the piston for adjustably controlling the density of the material.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Correspondence


Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joseph S. Del Sole whose telephone number is (571) 272-1130. The examiner can normally be reached on Monday through Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the Examiner by telephone are unsuccessful, Mr. Duane Smith can be reached at (571) 272-1166. The official fax phone number for the

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organization where this application or proceeding is assigned is (703) 872-9306 for both non-after finals and for after finals.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from the either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll-free).



Joseph S. Del Sole
October 31, 2005